

**FIG. 1**

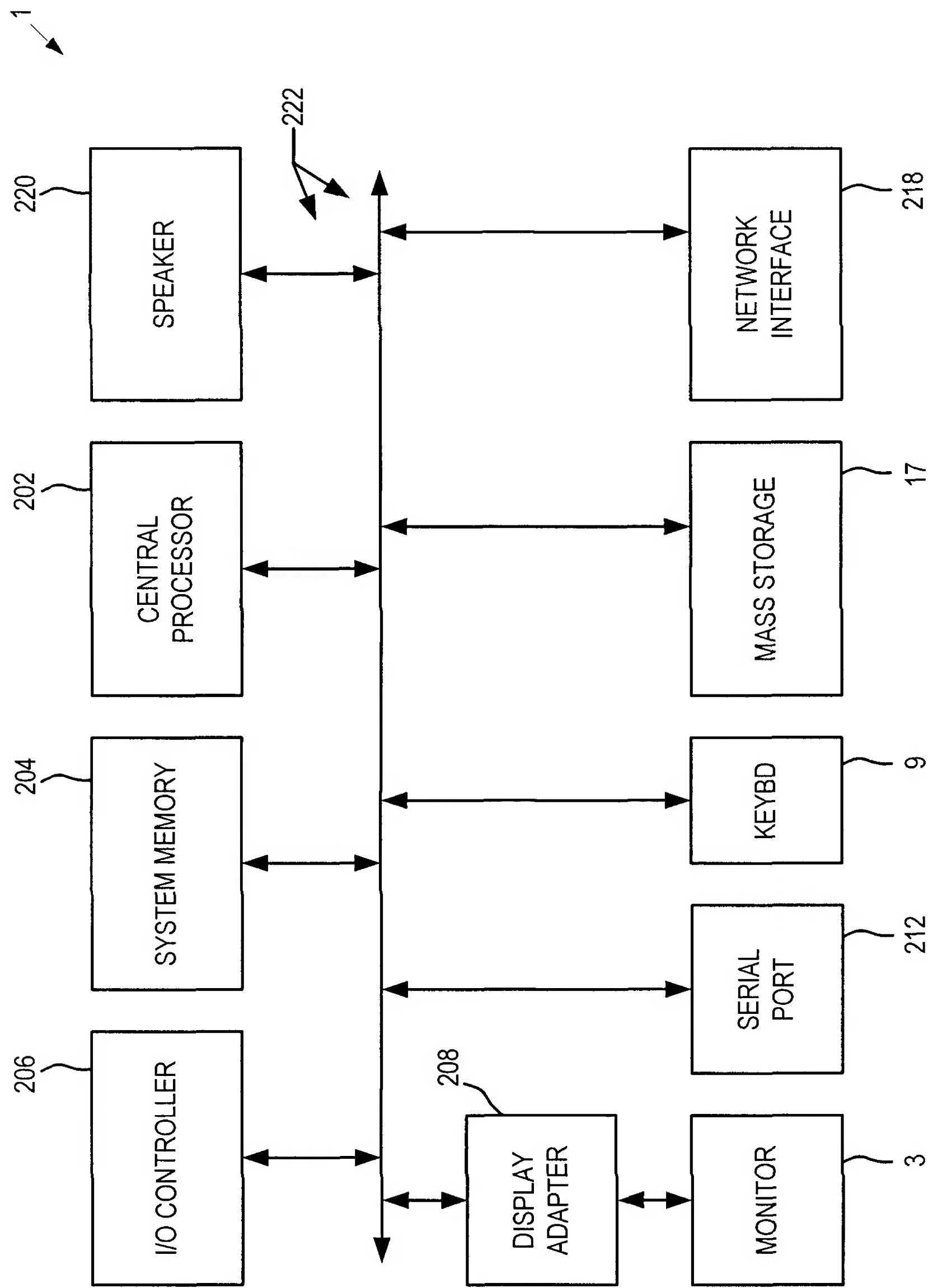


FIG. 2

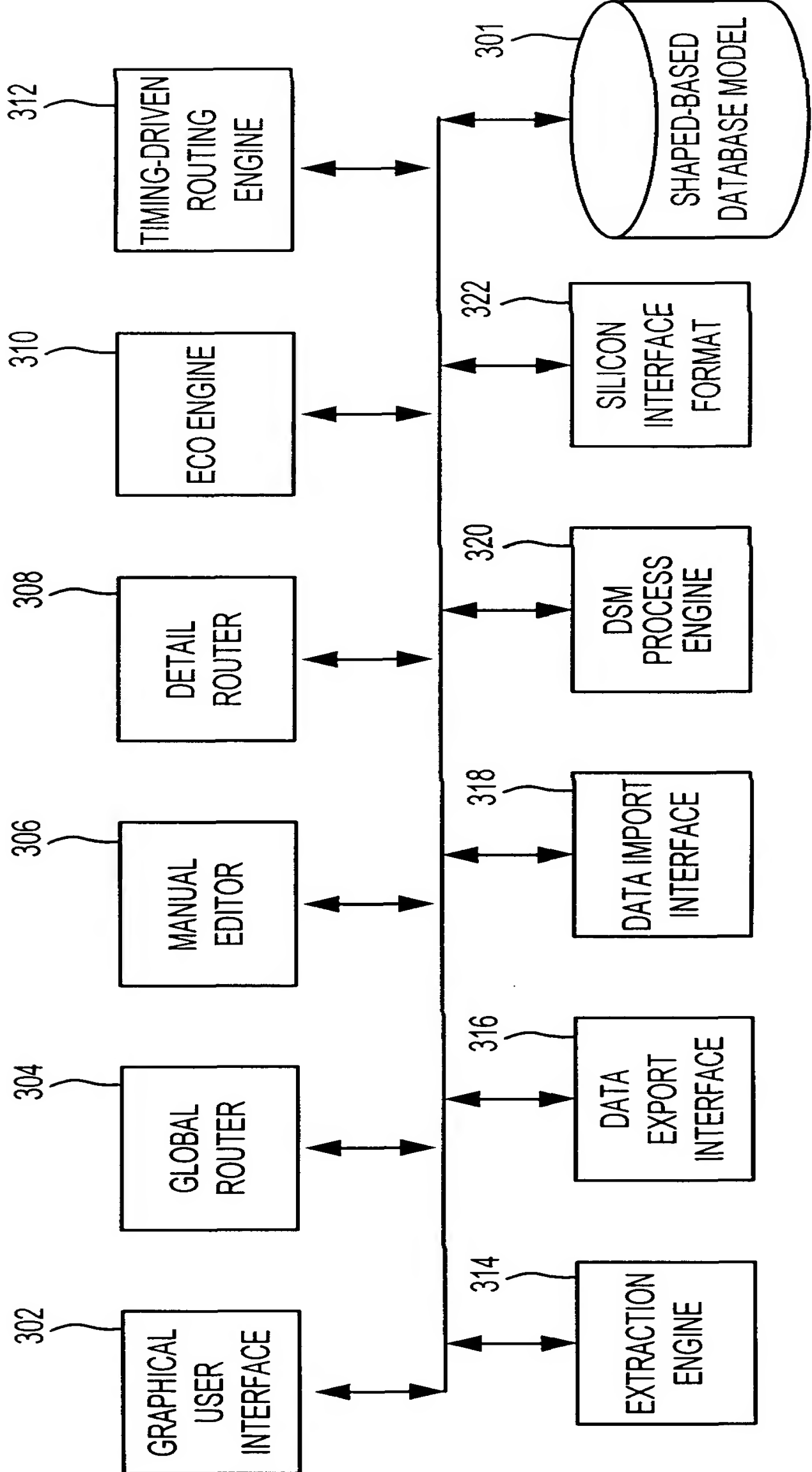
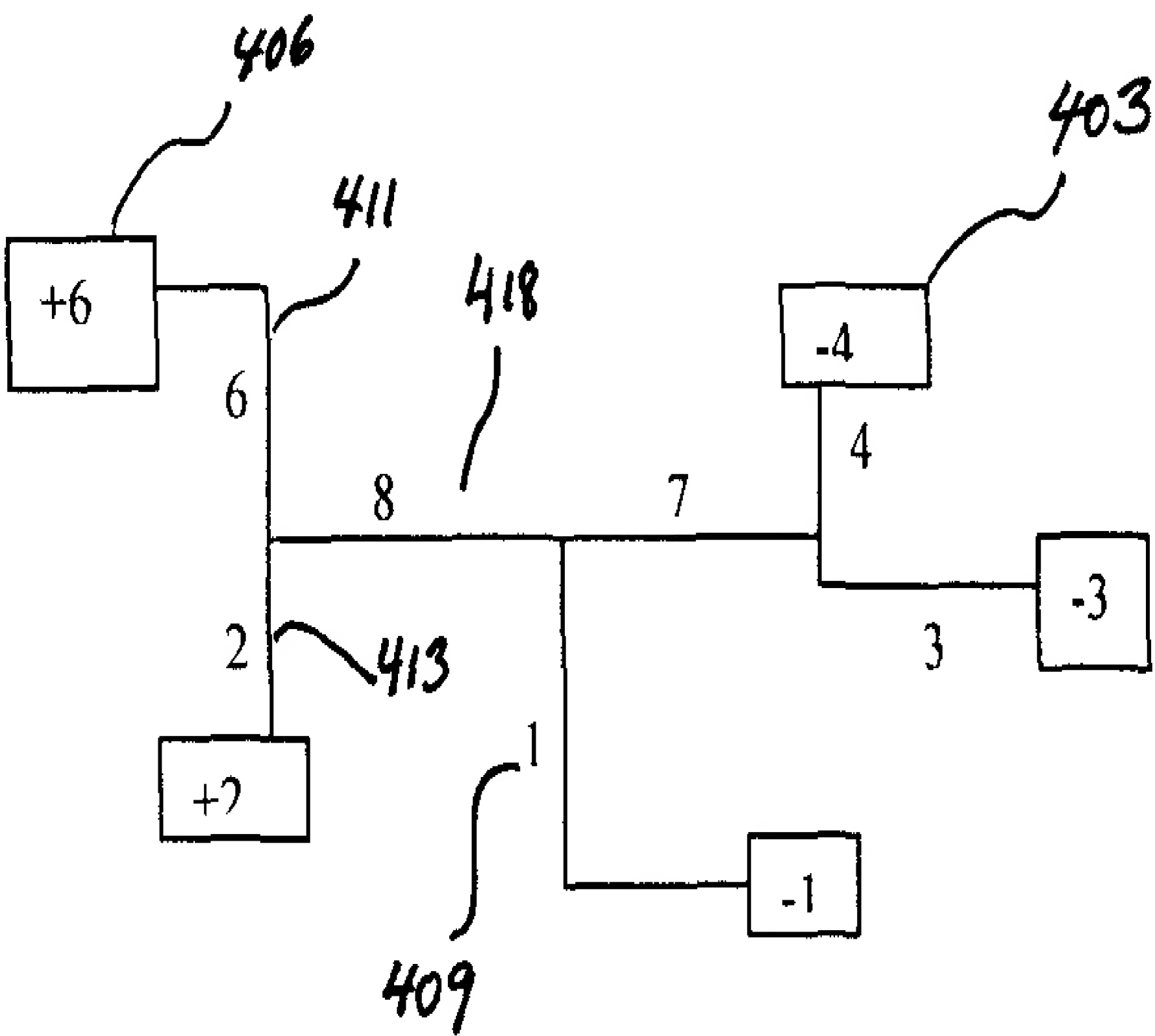
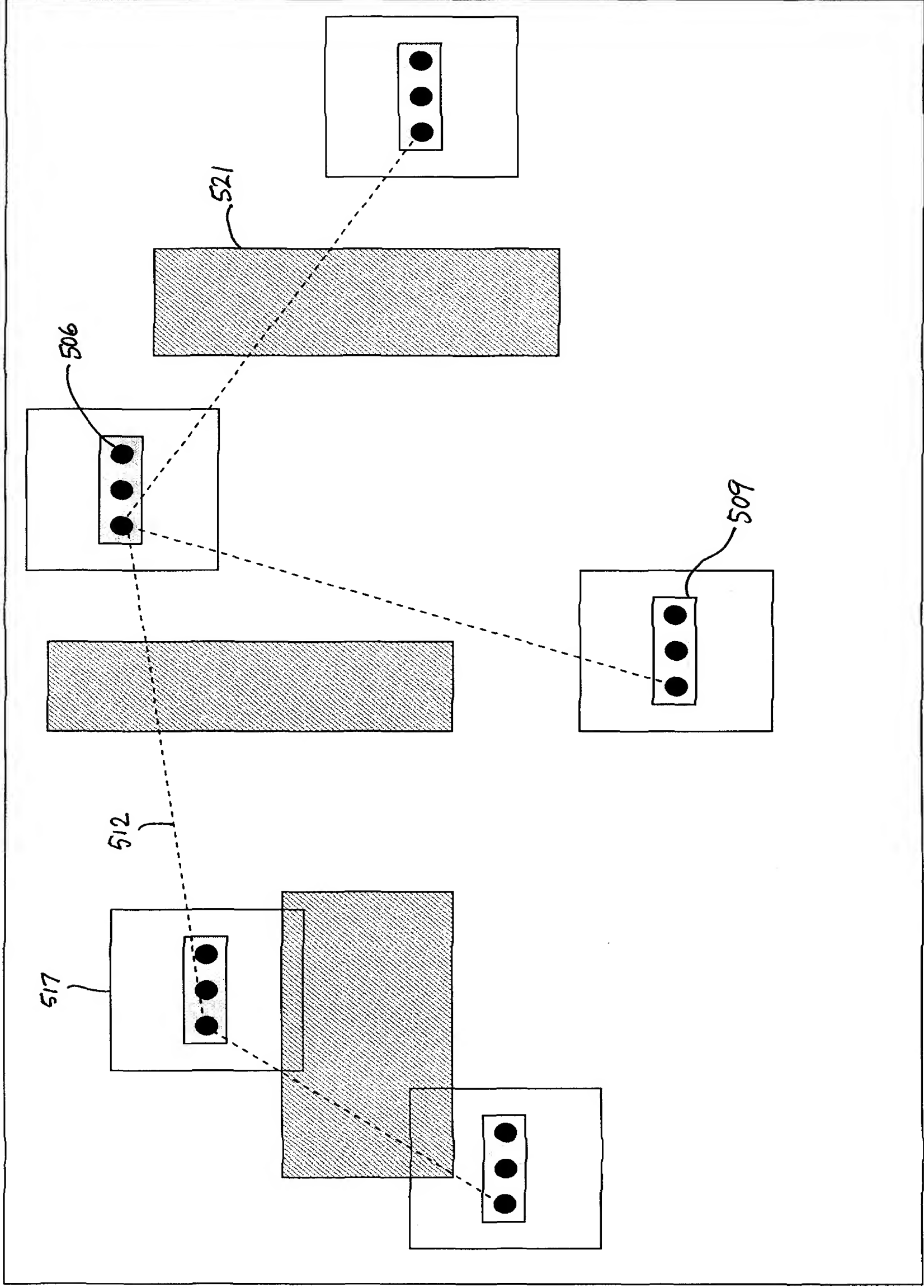


FIG. 3

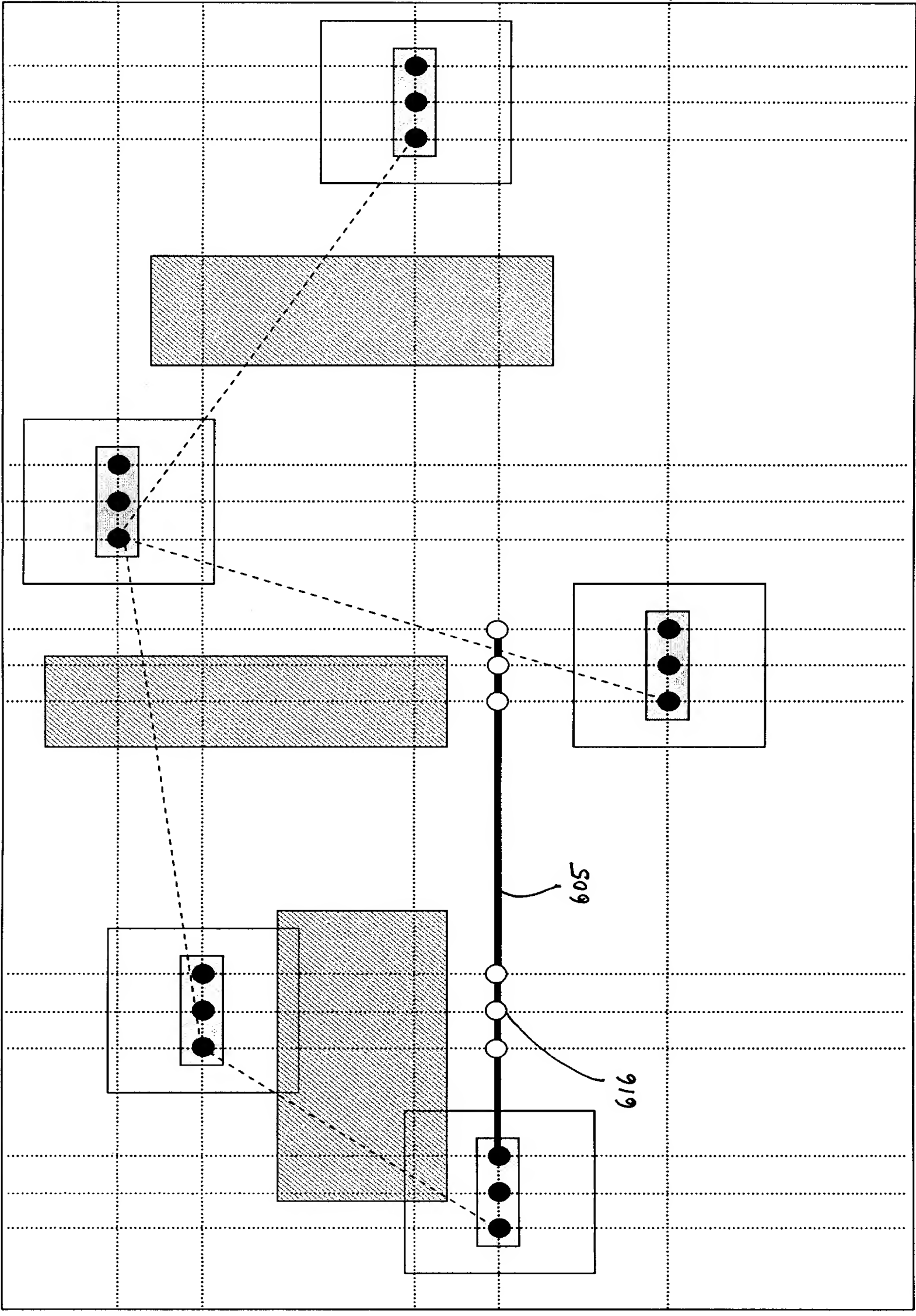


**FIG. 4**

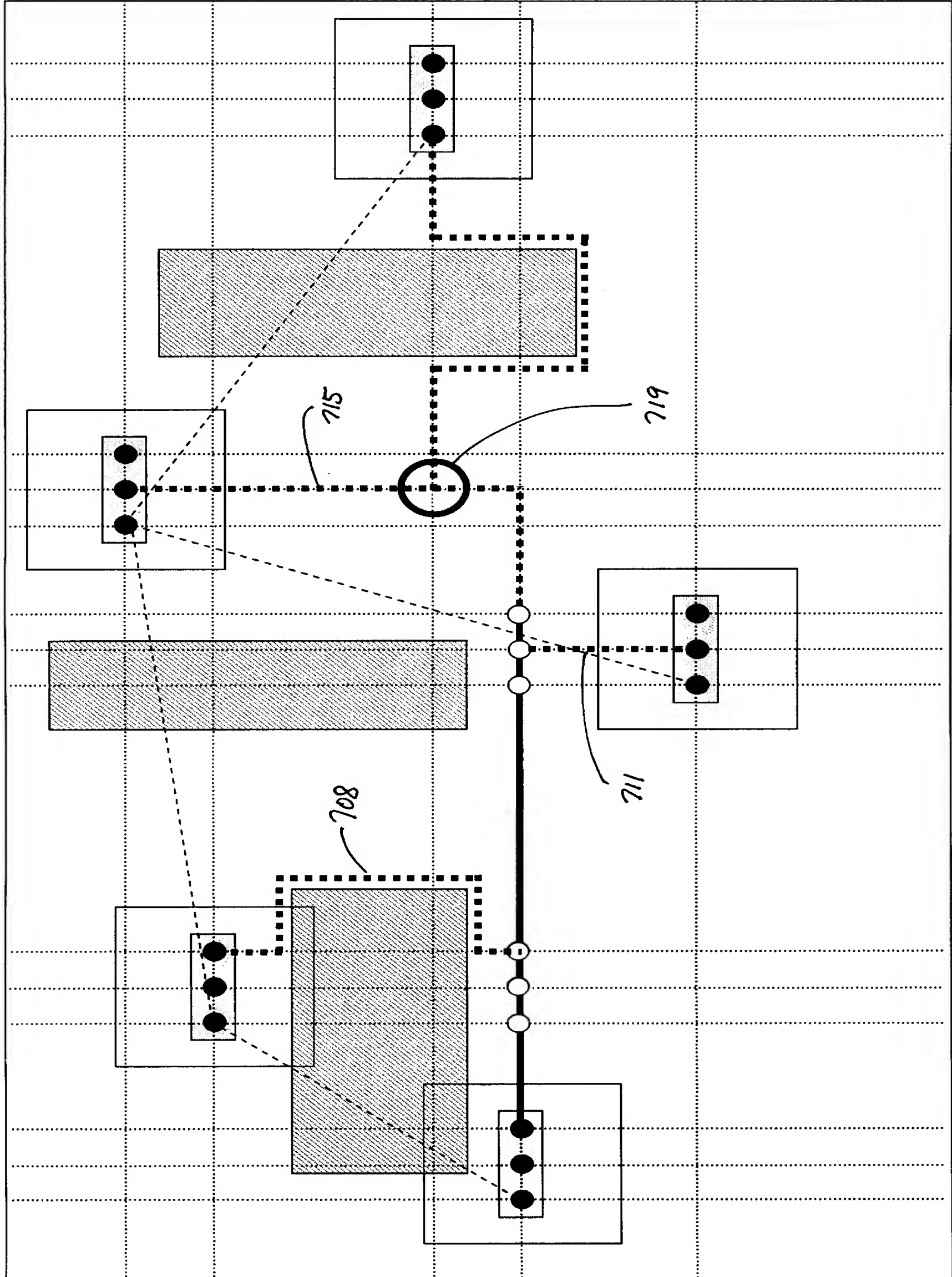


**Figure 5** Unrouted net showing points (black) on pins

608



**Figure 6** Net with prerouting (tracks already existing—shown in black) and a generated Hanan grid showing projected points onto the prerouting (clear circles)



**Figure 7** Proposed paths (dotted) from Steiner tree creation and positionally generated virtual pin (circled)